

Impact of Reassignment in the Part D Program on Health Outcomes June 11, 2009

Issue

Some policymakers have suggested that reassigned low-income subsidy (LIS) beneficiaries may experience an increase in adverse health outcomes due to possible disruption of their drug regimens induced by a switch in their Part D plans. Using the contractor support of Acumen, LLC, CMS investigated three indicators of heightened health risks, including death, hospital admissions, and emergency room visits. In addition to responding to these questions for the LIS population, CMS examine whether vulnerable subgroups, such as beneficiaries residing in nursing homes or beneficiaries with specific health conditions, experienced adverse health conditions attributable to reassignment.

Findings

Our results reveal that reassigned and not reassigned beneficiaries experienced almost indistinguishable death rates and admission rates into emergency rooms and hospitals for 2007. These findings remain consistent after accounting for differences in the demographic characteristics and the health histories of beneficiaries. Parallel conclusions are derived when considering only beneficiaries residing in institutions. Within vulnerable population subgroups, including the disabled and individuals with mental health conditions, diabetes, congestive heart failure and seizures, there were no notable differences in rates between reassigned and not reassigned beneficiaries. In addition, no ethnic group experienced more events for reassigned compared to not reassigned beneficiaries.

Background

Medicare Part D beneficiaries who receive a low-income subsidy and do not select their prescription drug plans (PDP) are auto-enrolled by the Centers for Medicare and Medicaid Services (CMS) into qualified plans. If a plan loses its auto-enrollment qualification—i.e. its premium rises above the regional LIS benchmark (or, for 2007 and 2008 contract years, above a de minimus amount over the regional benchmark)—then LIS beneficiaries who are enrolled in that plan must switch to another plan to avoid paying higher premiums. For these beneficiaries who do not voluntarily select a plan, CMS randomly reassigns them into a qualified PDP. Between 2006 and 2007, nearly one million LIS beneficiaries were reassigned to different plans.

CMS administered reassignment at the beginning of 2007 using three different methods:

- Organization-Assigned: Some parent organizations were permitted to shift auto-enrollees across their plans when one plan became disqualified for fully-subsidized LIS premiums and another was available.
- CMS - Within Organization: CMS directly reassigned some beneficiaries to another plan within the same parent organization.
- CMS - Across Organization: CMS directly reassigned other beneficiaries to a 2007 plan in a different parent organization than their 2006 plan. Beneficiaries assigned via this method would be most likely among these three groups to experience a change in formulary from one year to the next.

Methodology

Through Acumen, LLC, CMS analyzed outcomes for “deemed” LIS beneficiaries who were auto-enrolled in their Part D plans at the beginning of 2007 and who were not new to the Part D program. The deemed LIS population includes all dual-eligible Medicaid beneficiaries, and is a subset of the LIS population. To assess health outcomes, our analysis restricts auto-enrolled beneficiaries to those in Fee-for-Service (FFS) through 2007 and who remained in the same contract and plan throughout the first quarter of 2007. We designate this group as “All”. The “All” population consists of 4 million beneficiaries, of which 21% are reassignees. We also examine outcomes for that segment of the “All” population residing in nursing homes, a group we designate as “Institutional.” The “Institutional” population comprises approximately 340,000 beneficiaries, of which 19% are reassignees. Table 1 provides exact counts.

Table 1: Auto-Enrolled and Reassigned Population Counts

	Number of Beneficiaries	% of Auto-Enrolled Population
All		
Auto-Enrolled Beneficiaries	3,992,626	100%
All Reassignees	823,480	21%
Institutional		
Auto-Enrolled Beneficiaries	336,950	100%
All Reassignees	65,448	19%

In our study, the “control” population is comprised of those auto-enrolled beneficiaries who remained in their 2006 PDP into 2007 and were not reassigned. The “treatment” population is comprised of reassigned beneficiaries. Our statistical methodology compares incidences of health outcomes for reassigned beneficiaries (treatment population) and auto-enrolled beneficiaries who were not reassigned (control population) using multivariate regression methods that adjust for potential differences in population demographics (e.g., gender, age, ethnic group, geographic residence) and health histories (e.g., RxHCC variables used by CMS in its Part D risk adjustment). We evaluate three categories of health outcomes—death, number of hospital admissions, and number of emergency room (ER) visits—and measure two aspects of intensities: (i) the probability that the event occurs at all and (ii) the number of admissions/visits for those who enter a hospital and/or emergency room during the reference time frame.

The analysis employs two types of statistical models: (i) logit models that predict the probability of whether a particular event (i.e. death, a hospital admission, an emergency room visit) occurs within a designated time horizon (i.e. 3, 6, 9, or 12 months after the beginning of 2007), and (ii) linear regression models to predict the average number of admissions/visits experienced by beneficiaries with at least one event. Multiplying these predictions gives the per-capita number of admissions/visits for beneficiaries in the overall sample. To further evaluate the impact of reassignment on averages and per-capita values, our analysis conducts what is termed as a counterfactual exercise to infer what would have occurred under two statistical scenarios: all beneficiaries are reassigned versus what would have happened had no reassignment taken place for any beneficiaries.

This analysis examines the effects for the overall population and vulnerable subgroup populations defined by disability status and pre-existing health conditions, including individuals with mental health conditions, diabetes, congestive heart failure and seizures. The analysis also studies the effects of reassignment across various ethnic groups to determine if reassignment affects these groups in different ways.

Summary of Results

Reassignees Experienced the Same Death Rates as Other Auto-Enrolled Beneficiaries

Figure 1 compares the death rates for reassigned and not reassigned beneficiaries within the first 6 months of 2007. The results appearing in Figure 1 generalize to other time spans for 2007. One sees only tiny differences in these rates, with reassigned beneficiaries having slightly lower probabilities of death in both the “All” and “Institutional” populations. More specifically, the reassigned beneficiaries had a 3.46% chance of dying in the “All” population, whereas the not reassigned beneficiaries had a 3.58% rate. In the “Institutional” population, death rates are predictably higher than non-institutionalized beneficiaries at 13.67% for reassigned beneficiaries and at 14.29% for those who are not reassigned.

Figure 1: Death Rates within the First 6 Months in 2007 Controlling for Population Composition

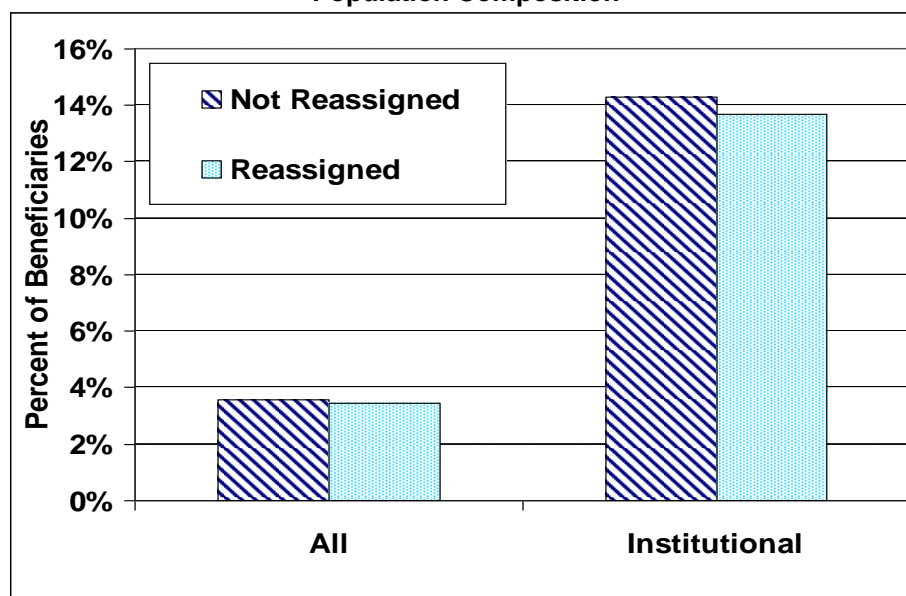


Table 2 compares rates for the first 3, 6, 9 and 12 months of 2007 under two statistical scenarios: everyone in the population is not reassigned (column 2), and everyone is reassigned (column 3). The discrepancy between these columns measures the difference in the risk of death associated with reassignment holding population composition constant. One sees in this table virtually no difference in death rates between the two groups.

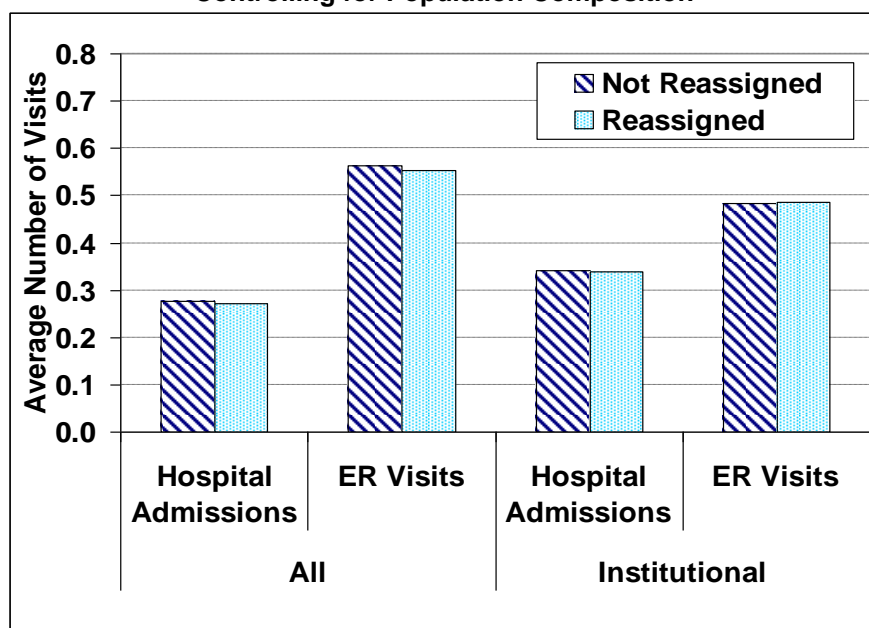
Table 2: Comparing Death Rates for Different Time Frames in 2007 Controlling for Population Composition

Period After Reassignment	% Who Die within Period	
	Not Reassigned	Reassigned
All		
3 Months	1.95%	1.87%
6 Months	3.58%	3.46%
9 Months	5.05%	4.93%
12 Months	6.60%	6.50%
Institutional		
3 Months	8.11%	7.68%
6 Months	14.29%	13.67%
9 Months	19.68%	19.14%
12 Months	25.54%	25.18%

Reassignees Did Not Experience More Hospital Admissions or ER Visits

Figure 2 compares per capita number of hospital admissions and ER visits between reassigned beneficiaries and their not reassigned counterparts during the first 6 months of 2007. Again one sees virtually no difference in these measures of health outcomes across groups. In the “All” population, reassigned beneficiaries experienced 0.27 hospital admissions and 0.55 ER visits per capita, whereas the not reassigned beneficiaries experienced 0.28 admissions and 0.56 visits per capita. In the “Institutional” population, per-capita hospital admissions and ER visits reached 0.34 admissions and 0.49 visits for the reassigned group, and 0.34 admissions and 0.48 visits for the not reassigned group; nearly identical rates for both groups. The findings presented in Figure 2 generalize to other time horizons for measuring incidence of hospital admissions and ER visits in 2007.

**Figure 2: Per Capita Hospital Admissions and ER Visits within the First 6 Months in 2007
Controlling for Population Composition**



Tables 3 and 4 show results for the first 3, 6, 9 and 12 months of 2007 under our two reference scenarios: everyone in the population is not reassigned (columns 2 and 3), and everyone is reassigned (columns 4 and 5). Columns 2 and 4 list the incidence of any admission/visit during the specified time frame, and columns 3 and 5 report the average number of admissions/visits for those who had any receipt of these medical services. The product of the incidence of any services and the average number of services received yields the per-capita quantities graphed in Figure 2.

Inspection of Tables 3 and 4 reveals barely perceptible differences in the incidences of hospital admissions and ER visits under the reassigned and not reassigned scenarios. Not surprising, incidence rates for the “Institutional” population exceed those for the “All” population, and rates increase with longer time frames. Occurrence of hospital admissions and ER visits were mostly, but not uniformly, lower under reassignment for the “Institutional” group.

**Table 3: Comparing Hospital Admission Rates for Different Time Frames in 2007
Controlling for Population Composition**

Period After Reassignment	Not Reassigned		Reassigned	
	% with at least one Hosp Admission	Average # Admissions for those with at least one	% with at least one Hosp Admission	Average # Admissions for those with at least one
All				
3 Months	10.35%	1.38	10.18%	1.38
6 Months	16.94%	1.63	16.75%	1.62
9 Months	22.13%	1.82	21.88%	1.82
12 Months	26.55%	1.99	26.27%	1.98
Institutional				
3 Months	14.17%	1.31	13.99%	1.30
6 Months	22.65%	1.50	22.43%	1.51
9 Months	29.14%	1.65	28.92%	1.67
12 Months	34.85%	1.78	34.67%	1.80

**Table 4: Comparing Emergency Room Visits for Different Time Frames in 2007
Controlling for Population Composition**

Period After Reassignment	Not Reassigned		Reassigned	
	% with at least one ER Visit	Average # Visits for those with at least one	% with at least one ER Visit	Average # Visits for those with at least one
All				
3 Months	18.25%	1.55	17.95%	1.54
6 Months	29.10%	1.93	28.75%	1.92
9 Months	37.04%	2.27	36.68%	2.26
12 Months	43.05%	2.57	42.62%	2.55
Institutional				
3 Months	19.06%	1.36	18.78%	1.36
6 Months	30.31%	1.59	30.23%	1.61
9 Months	38.47%	1.79	38.53%	1.81
12 Months	45.12%	1.97	45.15%	1.99

Population Subgroups Did Not Experience More Health Outcomes

In analyzing health outcomes within subgroup populations (the disabled, individuals with mental health conditions, diabetes, congestive heart failure and seizures, and ethnic groups) there were no notable differences between reassigned beneficiaries and not reassigned beneficiaries. The 6 month results for 2007 are presented, but these results are consistent for all of the time horizons (3, 6, 9, and 12 months) used in the analysis. In addition, differences in death rates across reassignment type (such as CMS-Across Organization) are nearly indistinguishable for each of the subgroups in the “All” population.

The results in Table 5 show that among the “All” population for each subgroup, there is no systematic pattern for death rates for the reassigned compared to the not reassigned beneficiaries. For instance, 3.53% of disabled reassigned beneficiaries die after 6 months compared to 3.62% for the disabled not reassigned group.

**Table 5: Comparing Death Rates after 6 months in 2007 among the Auto-Enrolled by Subgroup
Controlling for Population Composition**

Subgroup	% Who Die within Period	
	Not Reassigned	Reassigned
ALL	3.58%	3.46%
Disabled	3.62%	3.53%
Ethnicity		
White	3.79%	3.66%
Black	3.41%	3.39%
Hispanic	2.66%	2.79%
Asian	2.32%	2.27%
Pre-existing Health Conditions		
Mental Health Conditions	3.78%	3.66%
Diabetes	3.93%	3.81%
Congestive Heart Failure	4.31%	4.17%
Seizures	3.88%	3.75%

Although hospital entry rates are higher for people with disabilities or these pre-existing conditions compared to the overall population, the hospital admission rate is nearly identical among reassigned and

not reassigned beneficiaries. The same result holds true for the intensity of hospital admissions, among those beneficiaries who experience at least one admission. Table 6 summarizes the rate of hospital admissions and intensity of admissions for 6 months for the “All” population.

Table 6: Comparing Hospital Admission Rates after 6 months in 2007 among the Auto-Enrolled by Subgroup Controlling for Population Composition

Subgroup	Not Reassigned		Reassigned	
	% with at least one Hosp Admission	Average # of Admissions for those with at least one	% with at least one Hosp Admission	Average # of Admissions for those with at least one
ALL	16.94%	1.63	16.75%	1.62
Disabled	17.25%	1.61	17.12%	1.60
Ethnic Group				
White	16.82%	1.60	16.72%	1.60
Black	18.46%	1.71	18.48%	1.70
Hispanic	15.80%	1.61	15.82%	1.63
Asian	12.79%	1.57	12.76%	1.58
Pre-existing Health Conditions				
Mental Health Conditions	18.44%	1.65	18.62%	1.66
Diabetes	19.21%	1.67	19.30%	1.67
Congestive Heart Failure	21.15%	1.70	21.37%	1.70
Seizures	18.90%	1.67	19.20%	1.68

Table 7 shows ER admission rate and intensity of visits for the “All” population. Again, ER visits are slightly more common for people with disabilities or pre-existing health conditions, but for each subgroup, reassigned beneficiaries experience nearly identical rates of entry and intensity of visits compared to those not reassigned.

Table 7: Comparing Emergency Room Visits after 6 months in 2007 among the Auto-Enrolled by Subgroup Controlling for Population Composition

Subgroup	Not Reassigned		Reassigned	
	% with at least one ER Visit	Average # of Visits for those with at least one	% with at least one ER Visit	Average # of Visits for those with at least one
ALL	29.10%	1.93	28.75%	1.92
Disabled	30.06%	1.91	29.85%	1.90
Ethnic Group				
White	28.67%	1.91	28.66%	1.91
Black	32.82%	2.03	32.70%	2.01
Hispanic	27.94%	1.85	27.62%	1.85
Asian	20.07%	1.74	19.43%	1.77
Pre-existing Health Conditions				
Mental Health Conditions	31.61%	2.03	31.59%	2.03
Diabetes	32.05%	1.99	31.89%	1.98
Congestive Heart Failure	32.81%	2.01	32.69%	2.01
Seizures	33.30%	2.10	33.26%	2.09

Conclusion

Reassigned and not reassigned auto-enrolled beneficiaries have virtually identical death rates and rates of entering hospitals and emergency rooms, regardless of whether one considers 3, 6, 9 or 12 months after the start of a new Part D contract period.

More specifically, the evidence in the report supports the following main findings:

- Reassigned beneficiaries enter hospitals and visit the emergency rooms at rates essentially equivalent to auto-enrolled beneficiaries who are not reassigned. For individuals who had at least one visit/admission, the average number of incidents varied little between the two groups.
- There is no meaningful difference in death rates between the reassigned and not reassigned populations, for all time horizons in 2007.
- Accounting for differences in the compositions of the reassigned and not reassigned populations has no consequential effects on these findings.
- Institutionalized beneficiaries have higher death rates than the overall auto-enrolled population. However, the differences in health outcomes for those reassigned and not reassigned within the “Institutional” population are barely perceptible.
- One sees little variation in either death rates or incidences of hospital admissions and emergency room visits across reassignment types and subject to different reassignment rules.
- Vulnerable populations, including the disabled and individuals with mental health conditions, diabetes, congestive heart failure and seizures, have higher rates of death, hospital admissions and emergency room visits than all auto-enrollees. However, within these groups, there were no notable differences in rates between reassigned and not reassigned beneficiaries.
- Although outcomes differ somewhat by ethnic group, among White, Black, Hispanic and Asian auto-enrollees, no ethnic group experienced more events for reassigned compared to not reassigned.

A number of beneficiary protections are in place which may counteract the perceived negative impact of reassignment. These include the six protected classes of drugs, effective formulary review, the transition process, and the appeals and exceptions processes. While no systematic adverse health event differences were found, the potential for disruption at the individual beneficiary level exists. CMS continues to examine our processes for reassignment to identify possible improvements, and protecting our beneficiaries remains CMS’ highest priority.